



SEQUENCE LISTING

<110> Bott, Richard R.
 Clarkson, Kathleen A.
 Fowler, Timothy
 Liu, Chung-Cheng
 Ward, Michael
 Xia, Hai-Ying

<120> Enzymatic Array and Process of Making Same

<130> GC278-C3

<140> US 09/955,555

<141> 2001-09-17

<150> US 08/559,958

<151> 1995-11-17

<150> US 60/005,701

<151> 1995-10-17

<160> 29

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<400> 1

tgcagctcgt gttctgtacg gtgacgttaa cgacgacggt aaagttaact ccaccgacct 60

<210> 2

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<400> 2

gaccetgetg aaacgttacg ttetgaaage tgttteeace etgeegteet ceaaagetga 60

<210> 3

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<400> 3

aaaaaacgct gacgttaacc gtgacggtcg tgttaactcc tccgacgtta ccatcctgtc 60

```
<210> 4
<211> 41
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetic oligonucleotide
                                                                         41
ccgttacctg atccgtgtta tcgaaaaact gccgatctaa c
<210> 5
<211> 60
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetic oligonucleotide
<400> 5
tgcagttaga tcggcagttt ttcgataaca cggatcaggt aacgggacag gatggtaacg
                                                                        60
<210> 6
<211> 60
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetic oligonucleotide
<400> 6
tcggaggagt taacacgacc gtcacggtta acgtcagcgt ttttttcagc tttggaggac
                                                                    60
<210> 7
<211> 60
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetic oligonucleotide
<400> 7
ggcagggtgg aaacagcttt cagaacgtaa cgtttcagca gggtcaggtc ggtggagtta
                                                                        60
<210> 8
<211> 41
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetic oligonucleotide
                                                                        41
actttaccgt cgtcgttaac gtcaccgtac agaacacgag c
<210> 9
<211> 40
<212> DNA
<213> Artificial Sequence
```

```
<220>
<223> primer
<400> 9
                                                                         40
catgcaactc tgcagctcgt gttctgtacg gtgacgttaa
<210> 10
<211> 40
<212> DNA
<213> Artificial Sequence
<220>
<223> primer
<400> 10
                                                                         40
taccagatcc tgcagttaga tcggcagttt ttcgataaca
<210> 11
<211> 60
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetic oligonucleotide
tgcagctcgt aaactgtacg gtgacgttaa cgacgacggt aaagttaact ccaccgacgc
                                                                         60
<210> 12
<211> 60
<212> DNA
<213> Artificial Sequence
<220>
<223> synthetic oligonucleotide
 <400> 12
 tgttgctctg aaacgttacg ttctgcgttc cggtatctcc atcaacaccg acaacgcgga
                                                                         60
<210> 13
<211> 60
 <212> DNA
 <213> Artificial Sequence
<220>
 <223> synthetic oligonucleotide
 <400> 13
 cctgaacgaa gacggtcgtg ttaactccac cgacctgggt atcctgaaac gttacatcct
 <210> 14
 <211> 35
 <212> DNA
 <213> Artificial Sequence
 <223> synthetic oligonucleotide
 <400> 14
```

```
35
  gaaagaaatc gacaccctgc cgtacaaaaa ctaac
  <210> 15
  <211> 60
  <212> DNA
  <213> Artificial Sequence
  <223> synthetic oligonucleotide
  <400> 15
  tgcagttagt ttttgtacgg cagggtgtcg atttctttca ggatgtaacg tttcaggata
  <210> 16
  <211> 60
  <212> DNA
  <213> Artificial Sequence
  <220>
  <223> synthetic oligonucleotide
  <400> 16
  cccaggtcgg tggagttaac acgaccgtct tcgttcaggt ccgcgttgtc ggtgttgatg
  <210> 17
  <211> 60
  <212> DNA
  <213> Artificial Sequence
  <220>
  <223> synthetic oligonucleotide
  gagataccgg aacgcagaac gtaacgtttc agagcaacag cgtcggtgga gttaacttta
  <210> 18
  <211> 35
  <212> DNA
  <213> Artificial Sequence
  <220>
<223> synthetic oligonucleotide
  <400> 18
. ccgtcgtcgt taacgtcacc gtacagttta cgagc
                                                                          35
  <210> 19
  <211> 40
  <212> DNA
  <213> Artificial Sequence
  <220>
  <223> primer
                                                                          40
  catgcatcac tgcagctcgt aaactgtacg gtgacgttaa
  <210> 20
   <211> 40
   <212> DNA
```

```
<213> Artificial Sequence
<220>
<223> primer
<400> 20
                                                                          40
tcagacctac tgcagttagt ttttgtacgg cagggtgtcg
<210> 21
<211> 43
<212> DNA
<213> Artificial Sequence
<220>
<223> primer
<400> 21
                                                                          43
cgagcgccgc gggcttgttc tgtacggtga cgttaacgac gac
<210> 22
<211> 43
<212> DNA
<213> Artificial Sequence
<220>
<223> primer
<400> 22
agccagccgc ggttagatcg gcagtttttc gataacacgg atc
                                                                          43
<210> 23
<211> 43
<212> DNA
<213> Artificial Sequence
<220>
<223> primer
<400> 23
                                                                         43
cgagcgccgc gggcttaaac tgtacggtga cgttaacgac gac
<210> 24
<211> 43
<212> DNA
<213> Artificial Sequence
<220>
<223> primer
<400> 24
                                                                         43
agccagccgc ggttagtttt tgtacggcag ggtgtcgatt tct
<210> 25
<211> 27
<212> DNA
<213> Artificial Sequence
<220>
<223> primer
```

```
<400> 25
                                                                          27
gaaataccta tacatatgaa aggagtg
 <210> 26
 <211> 25
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> primer
 <400> 26
                                                                          25
 tggatggtat accactgaat cttac
 <210> 27
 <211> 69
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> celD dockerin domains
 <400> 27
 Val Leu Tyr Gly Asp Val Asn Asp Asp Gly Lys Val Asn Ser Thr Asp
                                      1.0
 Leu Thr Leu Leu Lys Arg Tyr Val Leu Lys Ala Val Ser Thr Leu Pro
                                  25
             20
  Ser Ser Lys Ala Glu Lys Asn Ala Asp Val Asn Arg Asp Gly Arg Val
                             40
  Asn Ser Ser Asp Val Thr Ile Leu Ser Arg Tyr Leu Ile Arg Val Ile
                          55
     5.0
  Glu Lys Leu Pro Ile
  <210> 28
  <211> 67
  <212> PRT
  <213> Artificial Sequence
  <220>
  <223> celS dockerin domains
  <400> 28
  Lys Leu Tyr Gly Asp Val Asn Asp Asp Gly Lys Val Asn Ser Thr Asp
                                      10
  Ala Val Ala Leu Lys Arg Tyr Val Leu Arg Ser Gly Ile Ser Ile Asn
                                  25
  Thr Asp Asn Ala Asp Leu Asn Glu Asp Gly Arg Val Asn Ser Thr Asp
                             40
  Leu Gly Ile Leu Lys Arg Tyr Ile Leu Lys Glu Ile Asp Thr Leu Pro
                          55
  Tyr Lys Asn
  65
  <210> 29
  <211> 599
  <212> PRT
  <213> Clostridium thermocellum
```

<400> 29

Lys Leu Tyr Gly Asp Val Asn Asp Asp Gly Lys Val Asn Ser Thr Asp Ala Val Ala Leu Lys Arg Tyr Val Leu Arg Ser Gly Ile Ser Ile Asn Thr Asp Asn Ala Asp Leu Asn Glu Asp Gly Arg Val Asn Ser Thr Asp Leu Gly Ile Leu Lys Arg Tyr Ile Leu Lys Glu Ile Asp Thr Leu Pro Tyr Lys Asn Pro Gly Val Pro Ser Lys Gly Met Ala Asn Cys Asp Phe Val Leu Gly Tyr Asp Pro Asn Val Leu Glu Val Thr Glu Val Lys Pro Gly Ser Ile Ile Lys Asp Pro Asp Pro Ser Lys Ser Phe Asp Ser Ala Ile Tyr Pro Asp Arg Lys Met Ile Val Phe Leu Phe Ala Glu Asp Ser Gly Arg Gly Thr Tyr Ala Ile Thr Gln Asp Gly Val Phe Ala Thr Ile Val Ala Thr Val Lys Ser Ala Ala Ala Ala Pro Ile Thr Leu Leu Glu Val Gly Ala Phe Ala Asp Asn Asp Leu Val Glu Ile Ser Thr Thr Phe Val Ala Gly Gly Val Asn Leu Gly Ser Ser Val Pro Thr Thr Gln Pro Asn Val Pro Ser Asp Gly Val Val Val Glu Ile Gly Lys Val Thr Gly Ser Val Gly Thr Thr Val Glu Ile Pro Val Tyr Phe Arg Gly Val Pro Ser Lys Gly Ile Ala Asn Cys Asp Phe Val Phe Arg Tyr Asp Pro Asn Val Leu Glu Ile Ile Gly Ile Asp Pro Gly Asp Ile Ile Val Asp Pro Asn Pro Thr Lys Ser Phe Asp Thr Ala Ile Tyr Pro Asp Arg Lys Ile Ile Val Phe Leu Phe Ala Glu Asp Ser Gly Thr Gly Ala Tyr Ala Ile Thr Lys Asp Gly Val Phe Ala Lys Ile Arg Ala Thr Val Lys Ser Ser Ala Pro Gly Tyr Ile Thr Phe Asp Glu Val Gly Gly Phe Ala Asp Asn Asp Leu Val Glu Gln Lys Val Ser Phe Ile Asp Gly Gly Val Asn Val Gly Asn Ala Thr Pro Thr Lys Gly Ala Thr Pro Thr Asn Thr Ala Thr Pro Thr Lys Ser Ala Thr Ala Thr Pro Thr Arg Pro Ser Val Pro Thr Asn Thr Pro Thr Asn Thr Pro Ala Asn Thr Pro Val Ser Gly Asn Leu Lys Val Glu Phe Tyr Asn Ser Asn Pro Ser Asp Thr Thr Asn Ser Ile Asn Pro Gln Phe Lys Val Thr Asn Thr Gly Ser Ser Ala Ile Asp Leu Ser Lys Leu Thr Leu Arg Tyr Tyr Tyr Thr Val Asp Gly Gln Lys Asp Gln Thr Phe Trp Cys Asp His Ala Ala Ile Ile Gly Ser Asn Gly Ser Tyr Asn Gly Ile Thr Ser Asn Val Lys Gly Thr Phe Val Lys Met Ser Ser Ser Thr Asn Asn Ala Asp Thr Tyr Leu Glu Ile Ser Phe Thr Gly

Gly Thr Leu Glu Pro Gly Ala His Val Gln Ile Gln Gly Arg Phe Ala 485 490 Lys Asn Asp Trp Ser Asn Tyr Thr Gln Ser Asn Asp Tyr Ser Phe Lys 500 505 510 Ser Ala Ser Gln Phe Val Glu Trp Asp Gln Val Thr Ala Tyr Leu Asn 515 520 525Gly Val Leu Val Trp Gly Lys Glu Pro Gly Gly Ser Val Val Pro Ser 530 540 Thr Gln Pro Val Thr Thr Pro Pro Ala Thr Thr Lys Pro Pro Ala Thr 550 555 Thr Lys Pro Pro Ala Thr Thr Ile Pro Pro Ser Asp Asp Pro Asn Ala 565 570 Ile Lys Ile Lys Val Asp Thr Val Asn Ala Lys Pro Gly Asp Thr Val 580 585 590 590 Asn Ile Pro Val Arg Phe Ser 595